GUARDIAN protection services
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FA245RF
Keypad/Transceiver

INSTALLATION INSTRUCTIONS

For use with QED and hardwired control panels ONLY!

General Information

The FA245RF Keypad/Transceiver is a combination unit. It replaces a FA245KP Fixed Addressable Keypad, 5881/5882M RF Receiver, and a 5800TM Transmitter Module. It also contains a normally-open relay output. The FA245RF may be used on any QED or hardwired only control panel that supports the FA245KP Keypad (i.e., FA142C, FA162C, FA1220C, FA1220CV, FA1340C, FA110C, FA120C, FA1200C).

Wireless Setup Considerations

There are 3 major elements involved in setting up the FA245RF. They are:

1. Wireless Keys (may be used as either System keys or Local keys).
2. RF Receiver (may be used as either a System receiver or a Local receiver).
3. House ID (programmed to use either the System's House ID or the FA245RF's House ID).

Understanding how these 3 elements are programmed is important for using the FA245RF. An application guide following the explanations outlines the programming of each element for various installations.

1. Wireless Keys:

- These are button-type transmitters (i.e., 5804).
- They may be set up as System keys or Local keys.
- System keys are enrolled into the QED supported control panel.
- Local keys are enrolled directly into the FA245RF and are not supervised for low battery conditions.
- Local keys ***DO NOT*** occupy any zones supported by the control panel.
- The FA245RF is shipped with default settings for the functions of the wireless keys. See the Programming Local Wireless Keys section for the default settings.

Enrolling the keys directly into the FA245RF would be necessary only in the following circumstances:

- When using more than the maximum number of transmitters supported by the control panel.
- When used on a hardwired control panel.

In all other cases, use wireless keys as System keys (enroll them into the QED supported control panel).

2. RF Receiver:

- The built-in 5881M/5882M Receiver may be used on a QED supported control as either a System receiver or a Local receiver.
- A System receiver passes signals from transmitters programmed into the control panel to the control panel.
- A System receiver passes signals from RF keypads to the control panel as regular 5800 signal data.
- A Local receiver passes signals from RF keypads to the control as console key data (as though keys were pressed on a hardwired keypad).
- When used as a System receiver, it supports a maximum of 16 transmitters.
- The receiver and wireless keys have a nominal range of 200'.

Programming the receiver as Local would be necessary only in the following circumstances:

- When using more than the number of transmitters **AND** the number of receivers supported by the control panel.
- When using multiple wireless keypads to control (arm/disarm, etc.) different partitions.
- When used on a hardwired control panel.

NOTES:

a) When used as a System receiver, do not exceed the number of receivers the control panel supports.

b) When used as a System receiver, wireless keys may still be used as Local keys.

3. House ID Source:

House ID source option determines which House ID the FA245RF will use for wireless keypad operation and for transmitting status indications to bi-directional devices. Programming this option is only necessary if you are using wireless keypads (5827) and/or bi-directional devices (i.e., 5827BD, 5804BD).

- Program the source as System, to use the control panel's House ID.
- Program the source as Local to use the House ID programmed into the FA245RF.

Programming the source as Local would be necessary in the following applications:

- When using bi-directional (i.e.,5804BD, 5827BD) to get status from more than one partition.
- When using RF keypads on more than one partition.
- When used on a hardwired control panel.

NOTES:

a) If using bi-directional devices, be sure to enable the transmitter module in the FA245RF.

b) If the House ID source is System, and more than one FA245RF is being used, make sure only one FA245RF has the transmitter module enabled.

FA245RF Application Guide

Below is a guide that outlines the possible applications for the FA245RF. There are 3 application questions you will need to answer in the guide below.

Application Questions: Are you using			**Control Panel**	**Program Wireless Keys As**	**Program RF Receiver & House ID Source*** As**
RF keys beyond system's capacity?	RF receivers beyond system's capacity?	RF keypads and/or Bi-directional devices on more than 1 partition?			
N/A	N/A	N/A	FA110C, FA120C, FA1200C,	Local	Local [0]
NO	NO	N/A	FA142C	Use System Application Programming	
YES	NO	N/A		Local	System [1]
YES	YES	N/A		Local	Local [0]
NO	NO	NO	FA162C	Use System Application Programming	
YES	NO	NO		Local	System [1]
YES	YES	NO		Local	Local [0]
NO	YES	YES*		System	Local [0]
YES	YES	YES*		Local	Local [0]
NO	NO	NO**	FA1220C,FA1220CV, FA1340C	Use System Application Programming	
YES	NO	NO**		Local	System [1]
YES	YES	NO**		Local	Local [0]
NO	YES	YES		System	Local [0]
YES	YES	YES		Local	Local [0]

* Two FA245RFs are needed for this application. One connected to partition 1's keypad terminals and one connected to partition 2's.
** If using an RF keypad on only one partition, the FA245RF's partition assignment must match the partition in field 1*48.
***If set for Local on a partition control, the FA245RF's partition assignment must match the partition of BD device.

FA245RF Additional Features

- Supplied with factory default settings. See the *Display/Description Chart* for the default values. See the *Programming* section for the procedure to default the FA245RF.
- Contains a 5800TM Transmitter Module, which sends status signals (Armed, Ready, etc.), to bi-direction units such as 5804BD and 5827BD.
- House ID programmable to 00-31.
- Receiver address programmable to 00-30 (no DIP switches).
- Contains a relay output that can operate in conjunction with the RF receiver (e.g., trip a garage door opener, control low voltage lighting).
- Has a mode that allows the user to enable and disable individual wireless keys. This is particularly useful if a user accidentally loses a wireless key.

FA245RF Installation

1. **Remove the case back** by pushing down the 2 snaps along the FA245RF's upper edge and pulling the case apart.
2. **Route the wiring** from the control panel through the opening in the case back. (See the control panel's instructions for proper wire run lengths).
3. **Mount the case back** directly to a wall or electrical gang box. Do not use the center screw hole of the top mounting holes.
4. **Plug the supplied connector** with the flying leads into the FA245RF's PC board and splice the panel wiring to it. *(See Figure 2 for wiring connections).*
5. **Connect the wires for the relay output** (if being used) to the terminals on the FA245RF's PC board *(See Figure 2 for wiring connections).*
6. **Reattach the keypad to its case back.**
7. **Remove the clear protective films** from the LCD display and keypad labels.

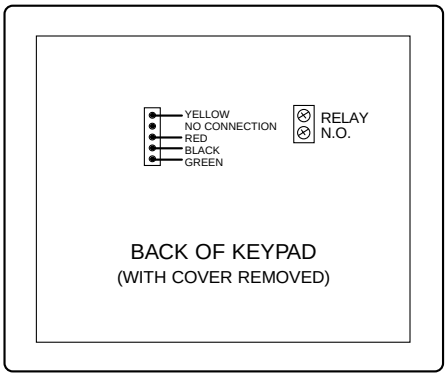


Figure 2: FA245RF Wiring Connections

1. Do not mount a transmitter closer than 36" from the FA245RF, or improper operation of the transmitter may result.
2. The ARMED and READY LEDs will flicker while the unit is powered. This is most noticeable while the LEDs are in the off state (disarmed and not ready). This is normal and will not affect any operation of the FA245RF.

FA245RF Programming

Entering Program Mode

Press the 1 and 3 keys simultaneously for a few seconds within 30 seconds of applying power to the FA245RF. The keypad will beep 3 times, and 2 dashes and 2 zeroes will flash alternately in the upper left-hand corner of the display. If any other numbers or letters are flashing in the display, press the [✱] key.

Enter a Program Option (e.g., **(1)** Keypad Address) to program the options of the FA245RF. Press **[0]** to enter **User Mode**. See the User Guide for the purpose of this mode.

While in the program mode, the [✱] key stores the information and moves you to the next prompt. The keypad will beep twice. The [#] key erases the information and moves you back so you may enter the correct information.

The FA245RF is shipped with a set of pre-programmed default values. If needed, the unit may be set back to these values. See **Defaulting the FA245RF** on page 7 for the procedure.

Two Programming Methods of the FA245RF

- **System:** When using the FA245RF in place of a stand-alone 5881/5882 RF Receiver.
- **Local:** For all other applications.

1. System Application Programming

Program Option/ Description	Display	Values	
1 Keypad Address	cA	01-31 Default = 31	Enter **1**. The display will alternately flash "cA" and a 2-digit number. Enter the 2-digit keypad address. Press the [✱] key to continue.
2 Receiver Address	rA	00-30 Default = 00	Enter **2**. The display will alternately flash "rA" and a 2-digit number. Enter the 2-digit address for the receiver. Press the [✱] key to continue.
4 House ID Source	hS	1=System, 0=Local Default = 1	Leave set to the default value (1) System. Press the [✱] key to continue.
6 Receiver	r-	1=System, 0=Local Default = 1	Leave set to the default value (1) System. ***Note:*** *Make sure the number of receivers set for System (1) does not exceed the capacity of the control panel.* Press the [✱] key to continue.

Program Option/ Description	Display	Values	
7 Transmitter Module	tE	1=Enable, 0=Disable Default = 1	Enter **7**. The display will alternately flash "tE" and a digit. Enter 0 (disabled) or 1 (enabled). ***Note:*** *The House ID in the control* ***MUST*** *match the House ID programmed in the wireless keypad and the bi-directional unit.* ***Note:*** *If more than one FA245RF is used, make sure only one has the Transmitter Module enabled.* Press the [✱] key twice to exit the FA245RF Program Mode.

This is all the FA245RF programming necessary for this application. If the display takes a long time to show the System status ("READY" or "NOT READY"), go back into program mode by pressing the 1 & 3 keys at the same time, then press [1] and verify the keypad address.

2. Local Application Programming

Use this programming section if your application requires any of the elements (wireless keys, RF receiver, or House ID source), of the FA245RF to be set as Local. Refer to the FA245RF Application Guide on page 2 for installations that require these settings.
The programming section is divided into two parts. The first is Programming the Keypad, Receiver, and the Transmitter Module of the FA245RF. The second part is Programming Local Wireless Keys into the FA245RF.

PROGRAMMING THE KEYPAD, RECEIVER AND TRANSMITTER MODULE OF THE FA245RF

Program Option/ Description	Display	Values	
1 Keypad Address	cA	01-31 Default = 31	Enter **1** to program the Keypad Address. The display will alternately flash "cA" and a 2-digit number. Enter the 2-digit keypad address. ***Note:*** *Control panels in the FA142C and FA162C families can only use keypad address 31. Control panels in the FA1220CV family use keypad addresses 01-15; the FA1340C family uses keypad addresses 01-30.* Press the [✱] key to continue.
2 Receiver Address	rA	00-30 Default = 00	Enter **2** to program the Receiver Address. The display will alternately flash "rA" and a 2-digit number. Enter the 2-digit address for the receiver. ***Note:*** *Control panels in the FA142C and FA162C families can only use receiver address 00. Control panels in the FA1220CV family use receiver addresses 01-15; the FA1340C family uses receiver addresses 01-30.* Press the [✱] key to continue.
3 House ID	hI	00-31 Default = 10	Enter **3** to program the House ID. The display will alternately flash "hl" and a 2-digit number. Enter the House ID for the FA245RF. ***Note:*** *The House ID is necessary only if a wireless keypad and/or a bi-directional unit are used and the House ID source is set for Local.* ***Note:*** *The House ID entered here* ***MUST*** *match the House ID programmed in the wireless keypad and the bi-directional unit.* Press the [✱] key to continue.
4 House ID Source	hS	1=System 0=Local Default = 1	Enter **4** to program the House ID Source. The display will alternately flash "hS" and a number. Enter 1 (System) to use the control panel's House ID. Enter 0 (Local) to use the House ID programmed into the FA245RF (Program Option 3). ***Note:*** *The House ID is necessary only if a wireless keypad and/or a bi-directional unit are used.* ***Note:*** *If the House ID Source is* ***System (1)****, the wireless keypad and the bi-directional units* ***MUST*** *match the House ID programmed into the control panel.* ***Note:*** *If the House ID Source is* ***Local (0)****, the wireless keypad and the bi-directional units* ***MUST*** *match the House ID programmed into the FA245RF.* Press the [✱] key to continue.

Program Option/ Description	Display	Values	
6 Receiver	r-	1=System 0=Local Default = 1	Enter **6** to program the Receiver. The display will flash "r-" and a digit alternately. Enter 0 (Local) or 1 (System). ***Note:*** *The receiver should be set as "Local" only in the following circumstances:* • *When using more than the number of wireless zones **AND** the number of receivers supported by the QED control panel.* • *When using multiple wireless keypads to control (arm/disarm, etc.) different partitions.* • *When using on a control that does not support 5800 Series wireless.* ***Note:*** *If more than one FA245RF is used, be sure that the number of receivers set for System (1) does not exceed the capacity of the QED control panel.* ***Note:*** *If the receiver is set for System, wireless keys may still be used as Local keys.* Press the [✱] key to continue.
7 Transmitter Module	tE	1=Enable 0=Disable Default = 1	Enter **7** to program the Transmitter Module. The display will alternately flash "tE" and a digit. Enter 0 (disabled) or 1 (enabled). ***Note:*** *When enabled, the transmitter module will send status signals (Armed, Ready, etc.) to bi-directional units such as the 5804BD and the 5827BD.* ***Note:*** *If the House ID source is Local, the House ID entered in the FA245RF **MUST** match the House ID programmed in the wireless keypad and the bi-directional unit. If the House ID source is System, the House ID in the control **MUST** match the House ID programmed in the wireless keypad and the bi-directional unit.* ***Note:*** *If the House ID source is System and more than one FA245RF is used, make sure only one has the Transmitter Module enabled.* Press the [✱] key to continue.

LOCAL WIRELESS KEYS PROGRAMMING

Programming this section is necessary only if you plan to use wireless keys beyond the QED control panel's capacity, or on a system that does not support 5800 Series wireless. Refer to the FA245RF Application Guide on page 2 for installations that require these settings.

1. The FA245RF is supplied with default settings for the functions of the wireless keys. See page 6 for the default settings.
2. If at any time during the programming of the wireless keys, you make a wrong entry and want to reprogram a wireless key, simply press the [✱] key until the Device Number display is showing (d-). Then just enter the correct information.
3. Local wireless keys are **NOT** supervised for low battery conditions.

Program Option/ Description	Display	Choices	
5 Device Number	d-	1-8	Enter **5** to program the Device Number. The display will flash "d-." Enter 1-8 to select the device (wireless key) to program for use in Local mode only. After the selection is entered, the display will flash "d" followed by the device number (d1, d2, etc.). ***Note:*** *A maximum of 8 wireless keys may be enrolled into the FA245RF. These wireless keys **DO NOT** occupy any zones supported by the control.*

Sub-Options for Program Option 5 Wireless Key Programming

Sub Option 1 Wireless Key Enroll	bL	Press Button on Wireless Key	Enter **1** to program the Wireless Key's Serial Number. The display will alternately flash "bL" and blank. This indicates that no wireless key has been enrolled yet. If any number is displayed after "bL," you may erase that number by pressing the [#] key. Press any button on the wireless key until the FA245RF beeps and the "bL" and the serial number flash alternately on the display. Button functions will be dealt with later. Press the [✱] key. The display will be flashing "d" followed by the device number.

Sub-Option/ Description	Display	Values	
Sub Option 2 4-Digit User Code	u4	UUUU (U = User Code Digit)	Enter **2** to program the 4-Digit User Code. The display will flash "u4." Enter a 4-digit user code that has been assigned for access to the control panel. The display will momentarily show the 4-digit user code after the last digit was entered. ***Note:*** *Be sure the user code entered is one that is entered in the control panel. The FA245RF sends the user code to the control panel, whenever this Local wireless key is pressed.* Press the [✱] key. The display will flash "d" followed by the device number.
Sub Option 3 6-Digit User Code	u6	UUUUUU (U = User Code Digit)	*This is for use only with the FA1200C control panel when programmed for high security mode.* Enter **3** to program the 6-Digit User Code. The display will show "u6." Enter a 6-digit user code that has been assigned for access to the control panel. The display will momentarily show the 6-digit user code after the last digit was entered. ***Note:*** *Be sure the user code entered is one that is entered in the control panel. The FA245RF sends the user code to the control panel, whenever this Local wireless key is pressed.* Press the [✱] key. The display will flash "d" followed by the device number.

Wireless Key Function Chart

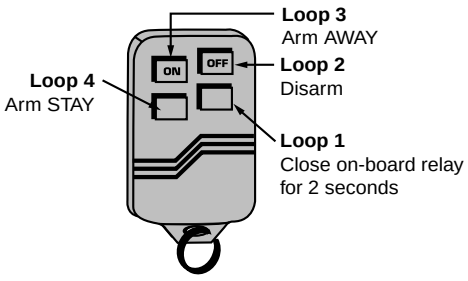
Function	Entry
Disarming	1
Arming Away	2
Arming Stay	3
Arming Maximum (Away Instant)	4
Arming Instant	7
Panic Alarm *Produces type of alarm [* & #] programmed in control panel.*	# + 99

Note: *Entry for control of 4204 and X-10 relays depends on the control panel being used.*	Control Panel		
	FA142C	**FA162C**	**FA1220C, FA1220CV FA1340C**
Manually Start a Relay Action	# + 7	# + 7 + n	N/A
Manually Stop a Relay Action	# + 8	# + 8 + n	N/A
Activate Relay as Programmed in Control	N/A	N/A	# + 71
Activate Relay as Programmed in Control	N/A	N/A	# + 72
Activate Access Control Relay for Partition	N/A	N/A	0

n = Device Number to be Controlled N/A = Not Applicable

Wireless Keys Default Settings

Below are diagrams showing the wireless key's loops and their default function. Regardless of which wireless key you use (even if it is one not shown), loops 1-4 are defaulted respectively as follows: Close the FA245RF relay for 2 seconds; Disarm; Arm Away; and Arm Stay. If you desire to change any functions of the wireless keys, follow the next two steps.



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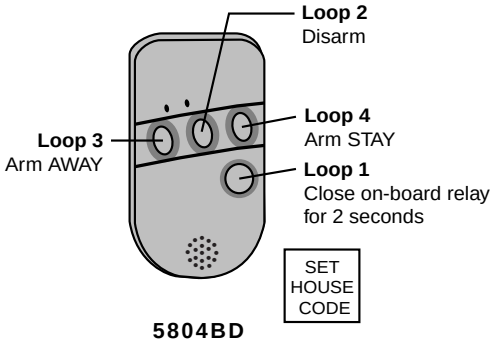

5804BD

Sub-Option/ Description	Display	Choices	
Sub Option 4 Loop Number + Function	A-	1-4 + YYYY (Y = Loop Function)	Enter **4** to program the Loop Number and its Function. The display will flash "A-." Enter the loop number. The display will alternately flash "A" with the loop number and the current function. To erase the current entry, press **[0]** as many times as necessary until the keypad beeps twice. Again press **[0]** until the keypad beeps twice. The display will alternately flash "A" with the loop number and blank. Enter the function for this wireless key loop (refer to the Wireless Key Function chart on previous page). The display will alternately flash "A" with the loop number and the function you just entered. Press the [✱] key. The display will flash "A-." Repeat the procedure until all loops are programmed for this wireless key. Press the [✱] key until the display flashes "d" followed by the device number.
Sub Option 5 FA245RF Relay Action	o-	1-4 + Z (Z = Relay Action)	Enter **5** to program the Relay Action. The display will flash "o-." Enter the loop number of the wireless key. The display will flash "o" followed by the loop number. Enter the relay action. There are 5 choices: 0 = no action; 1 = relay off; 2 = relay on; 3 = relay toggles on & off; 4 = relay closes for 2 seconds. The display will show "o" and alternately flash the loop number and the relay action. Press the [✱] key. The display will show "o-." Enter the next loop number and enter the relay action. When all loops have been programmed for this wireless key, press the [✱] key. The display will flash "d" followed by the device number.
			Repeat steps starting at Program Option 5 until all wireless keys have been programmed. Press the [✱] key twice. This will take you back to the main display, which will alternately flash "oo" and "- -." Press the [✱] to exit the FA245RF Program Mode.

Note: If the display takes a long time to show the system status ("READY" or "NOT READY"), go back into program mode by pressing the 1 & 3 keys at the same time, then press [1] and verify the keypad address.

Defaulting the FA245RF

The FA245RF is shipped with a set of pre-programmed default values. The installer to suit specific needs can change these default values. To restore the FA245RF's default values, perform the following procedure:

1. Enter the program mode. The keypad will alternately flash 00 and 2 dashes.
2. Press the [9] key. The display will flash EE.
3. Press the [1] key to restore the default values, or press any other key to exit without restoring the default values.

If [1] was pressed the keypad will beep 3 times and return to alternately flashing 00 and 2 dashes. If any other key was pressed the keypad will not beep and return to the alternately flashing the 00 and 2 dashes.

4. Press the [✱] to exit the FA245RF Program Mode.

Specifications

Physical: 4-3/4" H x 5-3/4" W x 1" D (121mm x 146mm x 25.4mm)

Wiring:

Red	+12VDC
Black	Ground
Green	Data to Control Panel
Yellow	Data from Control Panel

Current:

Standby	60ma
Transmitting and/or Relay Activated	120ma

Relay: Normally Open, 2A, 28VDC

Sounder: Piezo-electric (fire alarm is loud pulsing tone; burglary/audible panic alarm is continuous tone)

FOR DETAILS ON THE LIMITATIONS OF THE ENTIRE ALARM SYSTEM, REFER TO THE INSTALLATION INSTRUCTIONS FOR THE CONTROL PANEL WITH WHICH THIS DEVICE IS USED.

FCC STATEMENT

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

FCC ID.CFS8DLFA245RF

FEDERAL COMMUNICATIONS COMMISSION (FCC) Part 15 STATEMENT

This equipment has been tested to FCC requirements and has been found acceptable for use. The FCC requires the following statement for your information:

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- If using an indoor antenna, have a quality outdoor antenna installed.
- Reorient the receiving antenna until interference is reduced or eliminated.
- Move the radio or television receiver away from the receiver/control.
- Move the antenna leads away from any wire runs to the receiver/control.
- Plug the receiver/control into a different outlet so that it and the radio or television receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user or installer may find the following booklet prepared by the Federal Communications Commission helpful: "Interference Handbook"

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402.

The user shall not make any changes or modifications to the equipment unless authorized by the Installation Instructions or User's Manual. Unauthorized changes or modifications could void the user's authority to operate the equipment.

LIMITED WARRANTY

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